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P A P E R S
IN
COLONIES AND TRADE.

The SILVER MEDAL of the Society was this Session voted to GEORGE ERRINGTON, Esq. of Yarmouth, for his Improvements in the Cure of White Herrings, after the Manner of the Dutch Pickled Herrings. The following Communications were received from him, and Samples of the Herrings were produced to the Society.

SIR,

I **B**EG leave, through you, to make my claim to the Society for the Encouragement of Arts, &c. for the Premium offered by them for Curing White Herrings, equal to those cured by the Dutch, and shall state the experiments I have made for such purpose.

In the year 1804, having imported a cargo of the best Bay, or St. Ube's salt, I engaged some experienced Dutch fishermen, and sent a vessel of fifty-four tons burthen into the North Sea in the month of July. They were successful in their first voyage, and returned within fourteen days with ninety-six barrels of pickled herrings; and making a second trip, they brought sixty barrels more; all of which I sold to Mr. Timothy Hobbs, No. 146, Whitechapel. I
then

then sent two boats upon the fishery, but both of them returned in the month of September without success.

Determined to prosecute the herring fishery, and finding that the meshes of our nets were smaller than the Dutch, and our fish not equal in size to theirs, I bought a whole fleet of new Dutch nets, and fitted them out for the use of our fishing vessels, at a great expense, and sent the same vessel as before, with nearly the same crew, early in June, 1805, to fish with the busses off Shetland, and the north coast of Scotland, but my vessel returned, after a six weeks cruize, without any herrings, which the crew attributed to the meshes of their Dutch nets being so large that the fish passed through them. The men refused to fish any more with them, and I have laid these nets aside at a total loss. I sent out the vessel again, having put on board her a fleet of our common nets; she soon returned with a full cargo of about one hundred and twenty-nine barrels of good pickled herrings when repacked, which were all sold to Mr. Hobbs, as before.

In 1806, being discouraged by the want of success at so early a period as June, I did not send my boat out till July. After a cruize of thirty-six days, she brought back a cargo of one hundred and ten barrels of pickled herrings; but there being at that time a vast quantity of Dutch prize herrings brought in, the home market was glutted, and my herrings were sold for the West Indies.

This year, not apprehending such competition from the Dutch fish in our market, I sent out the same vessel, which had always been under the same master, Henry Olley, and with nearly the same crew, now well instructed in the art of gipping, &c. and after a three months' voyage upon the coast of Scotland, from the Firth of Forth to Shetland, she brought home one hundred full repacked barrels, and sixteen

teen half barrels of pickled herrings, of which Mr. Hobbs had fifty-two barrels and thirteen half barrels, cured like the sample now sent to the Society. The other barrels are adventured to Surinam.

The process of curing the herrings, as declared to me by the master Henry Olley, and which, he affirms, he sees that the crew strictly perform, is as follows: The vessel being well provided with good substantial oak barrels, and especially with good strong coarse bay salt, the crew begin gipping the herrings as soon as taken; this operation is the act of taking out with a knife the fat-gut and gills, leaving the rest of the entrails. Upon the dextrous performance of this the art of curing pickled herrings principally depends; this business is the great object of attention, and must be performed the instant that the herrings are caught, that the first drain, or what the fishermen call the life-blood, may be preserved, for it is this which gives the rich flavor to the pickle, and great care is taken that each barrel has some of this blood. Salt is lightly sprinkled over each layer of fish, and the quantity required is about one barrel of salt to three barrels of herrings. After the casks of herrings have stood from twenty-four to forty-eight hours, to settle, they are filled up, well coopered, and closed, and thus remain till the vessel discharges her cargo, when the barrels are opened, and once more filled up, which is termed repacking. The fish are then ready for market. I inclose a certificate from Mr. Hobbs, and if I can communicate any further particulars to satisfy the Society, it shall most readily be done by, Sir,

Yours respectfully,

GEO. ERRINGTON.

Yarmouth, December 1, 1807.

TO C. TAYLOR, M. D. SEC.

Q

SIR,

CERTIFICATE.

SIR,

AGREEABLY to your desire, I hereby certify, that I have bought of you, for several years past, a quantity of herrings pickled after the manner of the Dutch, which were caught and cured by the crew of your boat, Henry Olley master. I had of you this year twenty-two barrels of the first catch, and about thirty-five barrels of the latter. In general I have been satisfied with their quality, and believe that the curing approaches nearer the Dutch in goodness, than any of the British cured white pickled herrings. This year, the first twenty-two barrels were small, but nicely cured herrings, and good flavoured pickle. The last were full roed fish, rather too much salted, but they will keep well, and be better in the spring.

I am, Sir,

Yours, &c.

TIMOTHY HOBBS.

London, November 22, 1807.

To Mr. G. ERRINGTON.

The THANKS of the Society were this Session voted to Dr. ALEXANDER ANDERSON, Superintendent of the Royal Botanical Garden at St. Vincent, for the following valuable Communications received from him.

DEAR SIR,

I AM honoured with your letter of the 26th and 28th of April, with the 21st and 24th volumes of the Transactions of the Society of Arts; also the publication on the Culture of Black Pepper, for which I feel great obligation to the Society.

From

From Mr. Martyn's account of the pepper plant, I am in hopes that it will succeed in this garden ; as he says it is three or four years before they produce in the East Indies after planting, and it is now near that time since I procured them, and there are several very luxuriant at present. I am happy to find I had adopted the mode of planting them which he has described.

In general I find that East India plants are more rapid in their growth, either from seeds or plants, than the indigenous plants of the country, and arrive at perfection sooner ; but the reverse is the case with the Chinese. There is at present in the garden, a large tree of the *Litche*, sent by Sir Joseph Banks in 1788, which, as yet, has made no attempt to flower. I experience the same disposition in several herbaceous perennial plants from China. I was pleased to see a specification of growth of trees in the East Indies, by Dr. Roxburgh, in the last volume of the Transactions, which led me to a comparison of some East Indian trees here, and also of some natives ; and I find those from India thrive full as well here as in their native soil. The result I send you. It is a matter of curiosity, rather than utility. It shows the rapid progress of vegetation in tropical climates, compared with that in the colder regions.

Of the numberless articles for commerce and economy, manufactured in the East Indies, no attention is paid to them here, although many of them are common. The same is the case as to small products for necessary existence. This is owing to the want of a proper population, and the high price of manual labour. Except in Barbadoes, and a few other islands, all the land in cultivation is engrossed by the sugar cane. No room is left for poor industrious people, unless in detached spots remote from towns, markets, and shipping. The hard woods fit for mill timber

are more attended to than any other, and they undoubtedly are the most essential article to the planters, yet few take the trouble to plant them, or give room for them.

You mention the high price of oak bark for tanning. I am confident we have many barks here superior to it. As to the astringent principle, whether our barks are as effectual, or more so, than the oak bark in tanning, deserves experiment. For that end I will transmit you some specimens by the first opportunity. The barks might be imported at a trifling expense, unless the custom house duties should be found to prevent them. The high duties and prohibitions in the custom house prevent several people here from sending similar articles from hence, for experiments, as well as for speculation in trade. A few persons in this island wish to cultivate the cinnamon for commerce; they have asked me if it can be entered at the custom house, and what are the duties upon it? I could give them no information as to either. The overhauling and pilfering by the custom house officers in England, of articles of natural history, sent as specimens, is very injurious; such things should be held sacred.

Many articles here deserve to be subjected to experiments, from which I am prevented, by the necessary attentions to the garden, particularly for some time past. The business of it engrosses all my time and care, and is as much as one individual can attend to.

I will endeavour to obtain a correspondence with Dr. Roxburgh, but I almost despair of it during the war. I have correspondents in America whom I can depend upon, but the conveyance, through the medium of American vessels to these islands, is very precarious. Some time ago I lost a parcel of seeds from New York, sent in charge by one of these vessels. I believe I mentioned that I have
lost

lost one of my nutmeg plants, for which I blame myself by too much attention in watering it in dry weather. The other thrives remarkably well, and is now above ten feet high; but if it proves a male, I am at a stand. Could I find the opportunity of sending by a flag of truce to Cayenne, I know I could get a supply.

I am, with most sincere regard,

Dear Sir,

Your much obliged

And ever grateful Servant,

ALEXANDER ANDERSON.

Botanical Garden, St. Vincent,

July 21, 1807.

TO C. TAYLOR, M. D. SEC.

DEAR SIR,

I AM sorry an untoward circumstance has intervened in my correspondence with you, from which I may appear neglectful of the interests of the Society. It thus happened: On the 21st of July, 1807, I answered your letter accompanying the two volumes of the Society's Transactions, and that part of Martyn's Dictionary treating of the Black Pepper. My letter, as usual, I inclosed to General Melville, but unfortunately he had left London before its arrival. Captain Syms, who was the bearer, could neither find the General, nor get information of his residence. The Captain, a careful man, returned by the last fleet. The letter, with some other papers, as you may wish to know the contents of it, I have now sent.

Q 3

I have

I have the pleasure to inform you, that some of the black pepper plants are now pushing out freely their fructification; but have to lament, that the only nutmeg in the garden proves a male, and there is no prospect, at present, of obtaining more, as in the present situation of affairs, no communication from St. Vincent to Cayenne can be had by flags of truce or otherwise. Several plants of it were brought to Trinidad with the colony of the Chinese: I much fear they are, or will be lost there.

I send you some cloves, about two-thirds of the produce of one young tree for the first time. My reason for troubling the Society with them, is from a wish to know whether drying them in the shade or sun is the most proper mode, or if it makes any difference in the quality of the spice; if not, they may be cured in the sun with no trouble, in a very short time. The young fruit I reserved on the tree for seed, part of which was beat off by the wind, and seems to me little inferior to the flower buds.

On reading in the Society's Transactions, Dr. Roxburgh's Experiments on the Comparative Qualities of Bark of East India Plants as Substitutes for European Hemp, I was induced to try the leaves of the *Agave*, to ascertain how far the fibres of them would answer the purpose. I transmit a specimen of them for the Society's inspection. The small bundle, tied with some twine made of the same, is the produce of one moderate sized leaf, and was obtained from it, immediately cut from the plant, in a very short time. The operation was performed by a black boy. The plants are produced in abundance by nature among the rocks by the sea side and barren hills. If found useful, any quantity may be obtained with little labour and no expense of first cost. The superior advantage over the East India articles (most of them common in these islands) is the trifling labour

bour requisite to get the fibres from the fleshy substance of the leaves without steeping, or any other previous process. When macerated in water, I think it lessens the strength of the fibre, and gives it a dusky hue.

The three small bundles which I now send, were taken from two species common in St. Vincent, viz. *Agave vivipara*, and *A. cubensis*. The leaves of all the tropical species possess much the same properties. By the ancient Mexicans, the Agave was deemed the most valuable production of nature. It is mentioned by all the Spanish writers on America under the name *Magueli*.

It is to be observed, that no article in these islands, however valuable, and whatever encouragement may be held out for its manufacture, will be attended to in their present situation. The sugar cane is considered as the only plant that merits the attention of the planters.

In my last to you I mentioned barks of trees in these islands, which I conceived may become substitutes for oak bark in tanning. I transmit you specimens from five different trees, which are all common, and consequently readily procured, if they prove useful. That of the *maltjughra* I know the Spaniards use on the main land with that intention. The quantity of each is purposely small, for the more easy conveyance, and prevention of difficulties at the custom house. However, they may be sufficient for ascertaining their astringent or tanning principle.

In consequence of the war cutting off most of my opportunities of correspondence, the additions to the garden are much less than otherwise they would have been; however, almost every day some thing or other is obtained from some part of the world. What I have long wished for, the Grains of Paradise, are thriving luxuriantly. By the last

fleet, a number of East India seeds arrived, many of them will be valuable acquisitions if they vegetate.

I am, with the greatest regard,

Dear Sir,

Your much obliged,

Most humble and obedient Servant,

ALEXANDER ANDERSON.

St. Vincent, Botanical Garden,

April 16, 1808.

To C. TAYLOR, M. D. SEC.

*Table of the Growth of certain Trees in the Botanical Garden
at St. Vincent.*

Tectona grandis—The seeds lie in the ground from eighteen months to two years, before they vegetate. They have produced seeds in the garden ten years ago.

First seeds received from Sir J. Banks in	1788			ft. in.
Circumference of stem, in	1807 at 6 ft above ground	4	6	
<i>Caryota urens</i> , seeds from Sir Jos. Banks, 1792	-	Do.	4	10
<i>Sapindus edulis</i> , (Litche) plant from ditto 1788	-	Do.	4	8
<i>Mimosa Lebbeck</i> , seeds do. 1792	-	Do.	4	5
<i>Sterculia foetida</i> , do. do. 1792		Do.	6	0
Gomutu Palm, seeds from Bd. of Agri. 1800	-	Do.	5	7
<i>Artocarpus incisus</i> , small plants - 1793	-	Do.	6	1
<i>integrifolius</i> , do. - 1793	-	Do.	5	6
<i>Jambolifera pedunculata</i> , do. - 1793	- -	Do.	5	9½
<i>Aleurites triloba</i> , seeds - 1793	- -	Do.	4	8
<i>Eugenia Malaccensis</i> , small plants - 1793	-	Do.	3	10½
<i>Mangifera indica</i> , from seeds - 1788	-	Do.	7	0
Ditto, small plants from E. I. - 1793	-	Do.	5	2

NATIVES

<i>Swietenia Mahagoni</i> , seeds	1790	}	Do.	3	4
has been producing plenty of seeds for several years,					
<i>Copifra officinalis</i> , seeds from the Continent	1790	}	Do.	3	2
One of the most valuable woods,					

Mimosa

Mimosa grandis, seedling plant from the	}	at 6 feet above ground	6	6
Continent				

1792

A very hard and valuable wood.

Carolinia insignis, seeds from Trinidad	1787	-	Do.	8	0
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The wood of no value.

St. Vincent July, 21, 1807.

A. ANDERSON.

The THANKS of the Society were this Session voted to Dr. WILLIAM ROXBURGH, of Calcutta, for the following valuable Communications received from him.

MY DEAR SIR,

IT will give you pleasure to learn that I and my family arrived at Bengal in very good health. I have not had much time to prepare any kind of communication for the Society, but shall not be idle. I trust that I shall, by an early conveyance, receive your letter for Dr. Hunter, the Secretary of our Asiatic Society, to accompany the copy of the Transactions of the Society of Arts. Tell me what is thought of the extract of the Gaub, or Tannin, I sent you prepared from the fruit of *DIOSPYROS GLUTINOSUS*, or rather *EMBRYOPTERIS GLUTINIFERA*, *Coromandel Plants, Vol. I, No. 70*; you know you were only just put into a way of getting it from the India house when I left you.

I propose to get Mr. Cowper, the surgeon of the ship we came out in, to carry this, and a sample of the fibres of No. 3 of my last communication, on the Comparative Strength, &c. of the plant called *CALOOEE* by the Malays, see Vol. 24, page 148. I can cultivate this plant to any extent,

tent, as it grows readily from slips and cuttings, is perennial, and yields three or four cuttings, or crops, annually; but the cleaning of the fibres from the glutinous fleshy exterior coat, with which they are covered and intermixed, is uncommonly difficult. It has been simply scraped off in the sample I now send you, which I think you may present to the Society, though I fear this letter is written in too great a hurry for their attention. I beg of you to try to procure me all the information you can relative to cleaning such fibres. When the shoots are cut, the bark peels off most readily, but no kind of washing, coction, or maceration, that I have yet been able to think of, is of any use in cleaning or freeing the fibres from the exterior coat; the best way I have yet tried is scraping off this coat, as they do the pulpy part of the wild plantain, or *ABACA* at Manilla; see *Annals of Botany*, vol. 1, p. 200; but such a process will, I fear, be too expensive for Calooee hemp, though I know it is much stronger than any thing of the kind I could ever procure from the plantain tree, indeed next to *jeetee*; this fibre is the strongest vegetable fibre known to me.

Remember me to Dr. Bancroft, and tell him I have not forgot the orange dye, *Wassuntagonda*, a powder procured from the out side of the capsules of my *ROTTLERIA TINC-TORIA*; I must procure it from a distant country.

I have put up two small samples of the Calooee hemp. No. 1 is prepared as before mentioned, by scraping off the exterior coat as soon as the bark is pulled off. This has been cut and cleaned within these two weeks. No. 2 is the bark peeled off and dried in that state, and is about one year old, consequently done while I was in England. No. 1 seems to me to be as clean as the generality of Russian hemp. Pray let Lord Dundonald see this substance, and make my best respects to his lordship when you see him;
he

he may be able to advise me how to proceed in cleaning it in the first instance.

I have been this instant looking over the twenty-first Volume of your Society's Transactions, and think it may be agreeable to you to know that the tree which yields the *Gum Kuteera*, page 423, is my *STERCULIA VILLOSA*, and No. 1196 of my Drawings and Descriptions of Indian Plants, sent to the Honourable the Court of Directors.

I am, &c.

W. ROXBURGH.

Calcutta, Sept. 20, 1807.

TO C. TAYLOR, M. D. SEC.

MY DEAR SIR,

SINCE I wrote to you, on the 20th September, by the Surgeon of the Baring, who carried for you samples of the Malay hemp, called Calooce. I have received your letter of the 7th of March, intended to overtake me at Portsmouth, and I thank you for the pains you have taken about my Myrobalan galls. If the value of them is, by this experiment, ascertained, I shall the less regret the great loss I have sustained by them. You will be able to learn this from Mr. Desanges, and let me know.

You have now learned how to get a Treasury Order for any thing I may send the Society, I shall therefore be encouraged to trouble you oftener, and just now with four pounds and a half of the extract of Gaub fruit, (*EMBRYOPTERIS GLUTINIFERA*, *Coromandel Plants*, Vol. I. No. 70,) which is at this instant in perfection, and the extract is made with cold water. The former, which by the above mentioned letter I learn you were about to receive, was made

made with hot water. The fruit to make this quantity of extract, four pounds and a half, cost sixpence, and the expense of making may be as much; this information will the better enable the Society to ascertain whether or not it can be useful to tanners, or others, in England. The rate of freight you can better determine than I can here.

The little box is not quite full with the extract. I have filled it with Calooee hemp, the produce of the second cutting of the same plants in two months, so I may safely conclude four crops, or cuttings, may be had annually.

I am, &c.

W. ROXBURGH.

Calcutta, Nov. 3, 1807.

TO C. TAYLOR, M. D. SEC.



MY DEAR SIR,

To convince you that I have not forgot the Society nor you, I send you, above, copies of two letters which I have written to you since my return to this place. I also inclose a letter from the Secretary of the Asiatic Society, to convince you that I have been a faithful agent for establishing connections between the two Societies.

If you value our labours as we do ourselves, the original Calcutta price of each volume being fifty rupees, or half crowns, you will also see we have not been insensible of the attentions of the Society of Arts.

I am not relaxing in my pursuit after substitutes for hemp and flax; some more experiments are beginning, and are very far advanced, which promise success, that is, cultivating our sun, or Indian hemp, during the dry season, as practised at or near Bombay, and at Malabar, where
their

their sun or hemp has been reckoned in London equal to, if not better, than the best Russia hemp.

Canvas is now made here in very large quantities, by two or three clever Europeans, from the common sun plant of this country, of so very good quality, as to have nearly superseded English canvas throughout India. This is gaining a great point, if England should ever be pushed for the raw material, as the freight of canvas from hence to Europe will be trifling when compared to the freight of the raw article.

I was told in England that *lignum vitæ* was becoming scarce and dear. I am inquiring after a substitute, but hitherto without any pointed success. Should I meet with any kind of wood that promises well, I will send the Society a specimen, and another specimen of a kind of very beautiful elegantly veined black wood for furniture, called here *Seet-Saul*.

I remain, your's, very sincerely,

W. ROXBURGH.

Botanic Garden, near Calcutta,

Feb. 9, 1808.

TO C. TAYLOR, M. D. SEC.